

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/084338 A3

(51) International Patent Classification⁷: **F16D 1/00**

(21) International Application Number:
PCT/US2005/006771

(22) International Filing Date: 1 March 2005 (01.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/549,408 1 March 2004 (01.03.2004) US

(71) Applicants and

(72) Inventors: **DREW, Errol** [GB/GB]; 10 Smith Court, Southbridge, Northampton NN4 8GF (GB). **KARL, Philip, J.** [US/US]; 234 Williams Street, Providence, RI 02906 (US).

(74) Agents: **RIKKERS, David, J.** et al.; Brown Rudnick Berlack Israels LLP, One Financial Center, Boston, MA 02111 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

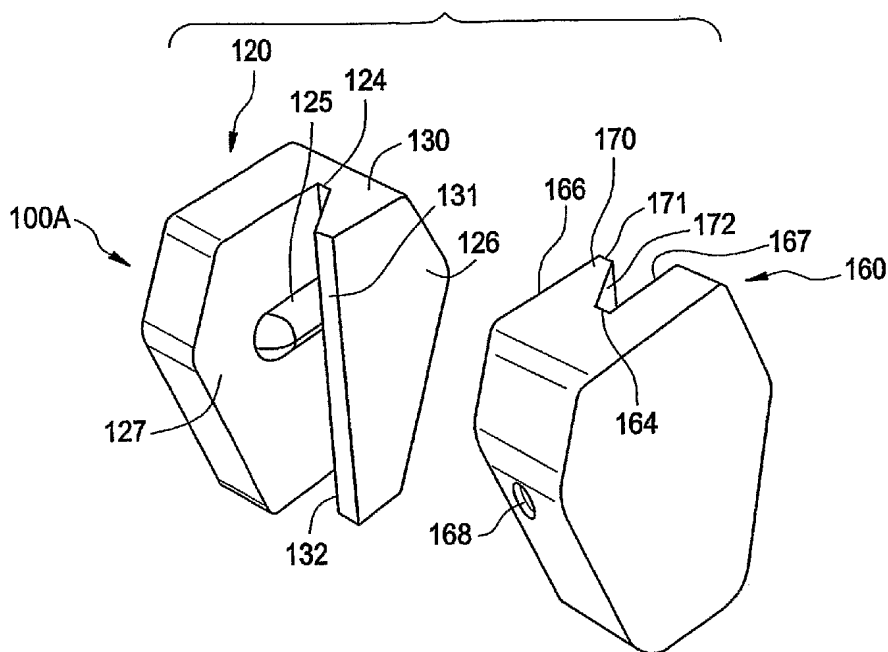
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: AN INTERLOCKING SEPARABLE JOINT



(57) Abstract: Ion mobility spectrometer. The spectrometer includes an enclosure for receiving a sample therewithin and an electron beam window admits an electron beam into the enclosure to ionize the sample in an ionization region. A shutter grid is spaced apart from the ionization region and means are provided for sample ion preconcentration upstream of the shutter grid. The ion preconcentration is effective to reduce space charge resulting in a lowered threshold detection level.

WO 2005/084338 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

8 December 2005